

# INSTRUCTION MANUAL

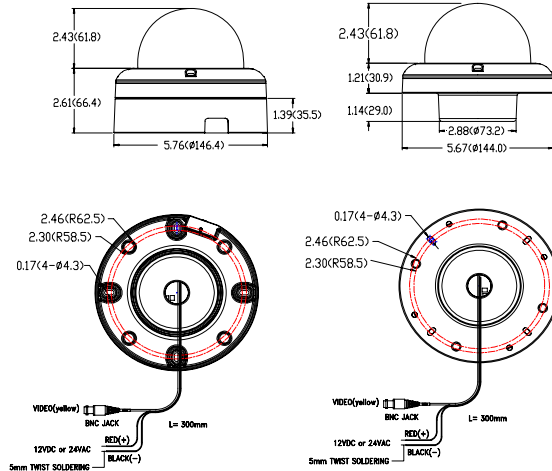
## COLOR VANDAL PROOF CAMERA

**D144-CB90HL-TDN3-AC5-UTP  
CD50WR**

### About this manual

Before installing and using the camera, please read this manual carefully. Be sure to keep it handy for later reference.

Dimensions : mm



## PRECAUTIONS

- Do not open or modify  
Do not open the cabinet extet during maintenance and installation, as it may be dangerous and cause damages.
- Do not put objects inside the unit  
Make sure that no metal objects or flammable substances get inside the camera. It could cause fire, short-circuits or damages.
- Be careful when handling the unit  
To prevent damage, do not drop the camera or subject it to strong shock or vibration.
- Install away from electric or magnetic fields
- Protect from humidity and dust
- Protech from high temperature  
Be careful when installing colose to the ceiling , in a kitchen or boiler room, as the temperature may raise to high levels.
- Cleaning  
Dirt can be removed from the cabinet only by wiping it with a soft cloth moistened with a soft detergent solution.
- Mounting Surface  
The mounting surface material must be strong enough to secure the camera.

## TROUBLESHOOTING

Before sending the camera out for repair, check the items below. If the problem persists after checking these items, contact your service center.

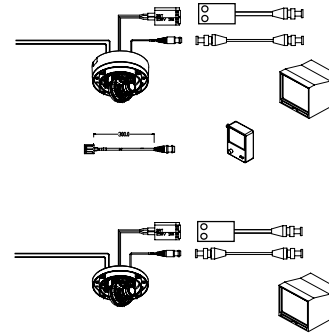
- **If no image appears**  
Is the coaxial cable attached securely?  
Are the power and voltage normal?  
Has the iris of the lens inside the camera been adjusted correctly (with the level volume) ?  
Is there adequate illumination?
- **If the image is unclear**  
Is the lens in focus?  
Is the lens dirty?  
Dirt of fingerprints on the lens can adversely affect the images. Gently wipe any dirt or fingerprints off the lens with a soft cloth or lens cleaning paper and cleaning fluid (commercially available).  
Is the monitor adjusted correctly?

**WARNING:**  
**TO PREVENT THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

## CONNECTIONS AND CAMERA SETTINGS

## CONNECTOR AND CAMERA SETTING

### ■ CONNECTIONS



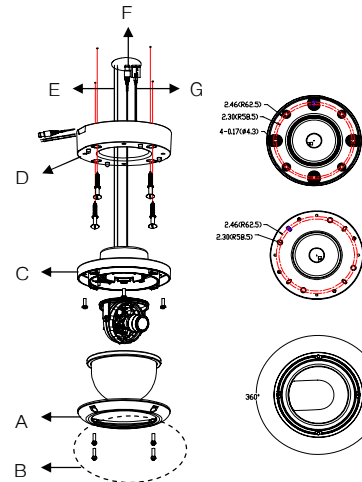
### CAUTION :

Check for polarity when using a DC 12V power supply.

## SPECIFICATION

GENERAL Spec	NTSC	PAL
HQ Interline Transfer CCD	1/3" 410K Pixels Color	1/3" 470K Pixels Color
Total Number of Pixels	811(H) x 508(V)	795(H) x 596(V)
Scanning System	525 Lines	625 Lines
Horizontal Resolution	550TV Lines	
Sensitivity to Light [30IRE]	(BW, No LED) 0.04fc, 0.4Lux(Scene) With F1.2 Lens	
Gamma Correction	0.45	
Shutter Speed	1/60 - 1/100,000[NTSC]	1/50 - 1/100,000[PAL]
S/N Ratio	> 48dB [AGC off]	
Synchronization	Internal (12VDC) / External (Line Lock, 24VAC)	
Video Output	10Vp-p/75ohm Composite	
<b>Control DIP Switch</b>		
BLC	DIP Switch Select ON/OFF	
ME/AE	DIP Switch Select ME/AE (ON/OFF)	
ATW/AWB	DIP Switch Select ATW/AWB (ON/OFF)	
AGC	DIP Switch Select ON/OFF	
<b>Electrical Spec</b>		
Operating Voltage	12VDC(11-20V), 24VAC(20-27V)	
Power Consumption	MAX LED ON (12VDC - 4.6W, 24VAC - 4.7W)	
<b>Mechanical Spec</b>		
Operation Temp	14°F ~ 131°F ( -10°C ~ +55°C )	
Air Humidity	Up to max.90%	
Lens Mount	3.3-12mm	
Connections via	BNC(VIDEO), 2P WIRE(Power)	

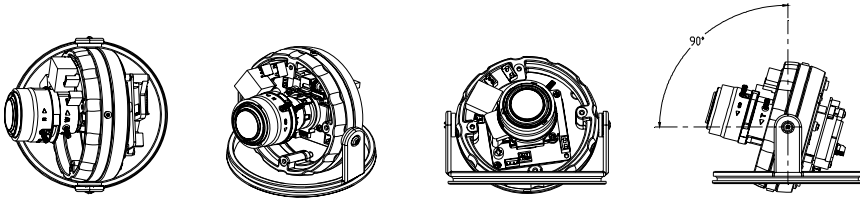
## INSTALLATION



- 1 Use the supplied L-wrench to remove the four fixing screws (B) of dome cover (A).
- 2 Align the camera unit with the surface of the ceiling, make marks on the ceiling in the places where the screw holes are to be drilled, and then drill the four holes.
- 3 Cut a hole (diameter 2.9in.73mm) in the ceiling for routing the cables.
- 4 Pass the power cable (E) and video cable (F) and UTP cable (G) from the camera unit through the cable hole in the ceiling.
- 5 Align the four screw holes in the camera unit (D) with the screw holes in the ceiling, and then secure the camera in place by tightening the four or more screws (C) through the washers.
- 6 Carry out the settings and adjustments for the camera.
- 7 Secure the dome cover (A) by tightening the screws (B).

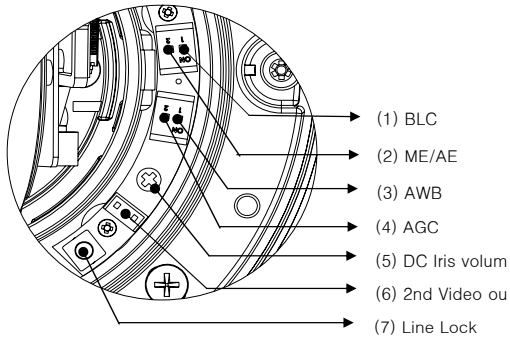
## CONNECTIONS AND CAMERA SETTINGS

### ■ LENS ADJUSTMENTS



1. Adjust the panning(360°) and tilt(90°) position.
2. Setting the zoom position by using Zoom Lever Screw.
3. Setting the focus by using Focus Lever Screw.

### ■ CAMERA SETTINGS for CB90HL-Interface board



### ● DIP SWITCH FUNCTION

#### (1) Compensating for backlight

ON	When back light is so bright
OFF	Normal setting

**CAUTION** : It will be correctly set by adjusting DC Lens control.

#### (2) Confirming the iris setting

ME	The default setting when DC auto-iris lens is installed
AE	The default setting when fixed iris lens is installed

**CAUTION** : The iris setting is preadjusted as the best condition for use at time of factory shipment, so it isn't necessary to change settings

#### (3) Confirming the White Balance

AWC	Use this under light source below 2500K and over 9500K of natrium.
ATW	Use this under lightsource between 2500K and 9500K of flourescent lamp ,incandescent light

#### (4)Setting gain control (AGC)

For adjusting the sensitivity of the camera. Use this setting for shooting in dark environments.

ON	Normal setting
OFF	Set this when there is excessive noise

#### (5) Adjusting level volume

If the entire image is too dark or bright, or the backlight compensation is not correct even after (1) is set to "ON", you need to adjust the level volume.

CCW (Low)	Closes the lens iris, making the entire image darker
CW(High)	Opens the lens iris, making the entire image drighter

#### (6) SECOND VIDEO OUT CONNECTOR

If installer do setting with protable monitor, this connector should be connected.

#### (7) Setting monitor synchronization (AC 24V adaptor users)

Vertical sync disturbance may occur when a selector is used to switch between multiple cameras connected to one monitor.

To prevent vertical sync disturbance, adjust (7).

#### CAUTION

\* When using the DC 12V adaptor, sync setting is set to internal sync.